REMARKS

Claims 1-75 remain in the application for consideration. In view of the following remarks, Applicant traverses the Office's rejections and respectfully requests that the application be forwarded on to issuance.

§102 Rejections

Claims 1-75 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,590,604 to Tucker et al. (hereinafter "Tucker").

Before undertaking a discussion of the substance of the Office's rejections, the following discussion of Applicant's disclosure and the reference to Tucker is provided in an attempt to assist the Office in appreciating certain distinctions between the claimed subject matter and Tucker.

Applicant's Disclosure

Applicant's disclosure and in particular the claimed subject matter pertains to methods and systems that permit efficient processing of ***user-defined multi-media editing projects*** that combine multiple different source data streams into a single compressed data stream that represents the project. The described approaches are directed to ensuring that those compressed source data stream portions that need to be uncompressed for processing are uncompressed and processed, while those compressed source data stream portions that do not need to be uncompressed are not uncompressed.

In one embodiment, a unique switch assembly is provided comprising one or more switches each of which being configured to process data streams. The

switch assembly is configured to process both compressed and uncompressed data streams to provide the single compressed output data stream. In one embodiment, three software-implemented switches are provided—one for handling uncompressed source data streams, one for handling compressed source data streams, and one for processing the output of the first two switches to provide the single compressed data stream.

As an example, consider Fig. 40, which shows a simple multi-media editing project that consists of two movies or sources 4000, 4002 that are to be displayed back-to-back, with a transition 4004 (such as a fade) between them. Assume that in addition to creating and viewing this project, the user wishes to create a new movie file on disk that can be sent to their friends. Doing this can take a very long time for the following reason. Typically, multi-media projects such as movies are never just simply RGB data. Rather, the projects are most always compressed in some way because video data is far too huge to efficiently store or send. So, in compressing movie data, a data compressor might be used that takes as long as 1 sec/frame. For a short sixteen minute movie, this might take a couple of hours. Usually uncompression using a data uncompressor is much faster. This is just the nature of data compressors and uncompressors.

When video editing systems such as the one described in Fig. 6 are used, a filter chain is typically built to include a decoder filter that decodes all of the data so that it is no longer compressed—that is, the data is uncompressed so that it is regular RGB data. For example, the Fig. 6 system shows a decoder filter 610 whose job it is to decode or uncompress media data.

Media data is uncompressed like this because, typically, a convenient and efficient way to combine two video data streams together and blend them in some

way is to take two uncompressed RGB streams and combine and blend them. In each filter chain then, only the uncompression filter (e.g. decoder filter 610) "understands" the compressed video that it is to uncompress. For example, two MPEG compressed frames generally cannot be provided to an effect and blended together. Rather, the uncompressed data associated with the MPEG-compressed frames is provided to an effect and blended. Thus far, in the examples given above, all of the data streams that have been provided to a matrix switch have been uncompressed data streams.

Consider the following observation with reference to the Fig. 40 project. If one were to build this project as described above, using for example, the filter graph structure 600 in Fig. 6, each of the source streams associated with sources A and B would first be processed by their respective filter chains and uncompressed. The source streams would then be combined and a transition would be incorporated for time t= 8-10. The entire project would then be subject to recompression so that it could, for example, be written to disk. Notice, however, that the only time that the source streams really need to be uncompressed, operated upon, and recompressed is the time t=8-10 during which the transition is taking place. The time before and after the transition simply incorporates the source streams as they are in their original compressed state. More specifically, if the user intended to create a new project file containing the Fig. 40 project, they could, in theory, simply take the compressed portions of sources A and B outside of the transition (i.e. for times t=0-8, 10-16—within an appreciable variation) and place them in the new project file. The transition (i.e. time t=8-10) could then be processed by uncompressing the associated source stream portions, operating upon them, recompressing them, and adding the recompressed portion to the new

project file. Thus, instead of having to perform the uncompression/recompression operation for an entire sixteen minute project, the uncompression/recompression need only be performed on two minutes of a project.

Fig. 41 illustrates an exemplary embodiment in which those portions of a multi-media project that necessarily need to be uncompressed, operated upon, and recompressed are processed in that manner. Likewise, those portions of a multi-media project that do not need to be uncompressed and processed are left in their compressed state. The two differently-processed project portions are then combined to provide a single compressed output stream that contains both project portions.

In this particular example, an object in the form of a switch assembly comprising three software-implemented matrix switches is employed—a uncompressed switch 4100, a compressed switch 4102, and a "smart" switch 4104. It will be appreciated and understood that while this example utilizes a three-switch implementation, it is possible to use a switch assembly having any suitable number of switches or objects. For example, a single switch could be provided and programmed to implement the desired functionality.

The uncompressed switch 4100 is configured to work on that part of a project that actually needs to have uncompression and various operations, i.e. transitions, effects and the like. In the Fig. 40 example, switch 4100 would work on that portion of the project corresponding to time t=8-10. Since that time period has a transition, a transition element 4100a is provided and receives the output of switch 4100 during that time. The inputs to switch 4100 are uncompressed data streams that correspond to sources A and B. Accordingly, the filter chains associated with switch 4100 that correspond to sources A and B have decoder

filters incorporated in them (see, e.g. decoder filter 610 in Fig. 6). Portions of each source are fed into the switch 4100, processed by the transition element or filter 4100a at the switch's output, and re-routed to the primary output of the switch as an uncompressed data stream.

The compressed switch 4102 is configured to process portions of the data streams where nothing requiring uncompression operations is happening. Thus, switch 4102 processes those portions of the data streams where there are no transitions or effects applied, and where the data streams can remain in their compressed state Matrix switch 4102 receives at its input compressed data streams and is configured to route the compressed data streams through to its primary output as a compressed data stream. . In this example, the switch 4102 would process the compressed data stream associated with source A during time t=0-8, and the compressed data stream associated with source B during time t=10-16. The filter chains for each of the sources do not incorporate a decoder filter so that the switch receives compressed data streams.

Smart switch 4104 is a smart recompression switch that is coupled to receive the primary outputs of uncompressed switch 4100 and compressed switch 4102. Switch 4104 has a compressor component or element 4104a that is configured to compress the uncompressed output of the uncompressed switch 4100. The output of the compressor component is then re-routed to become an input to switch 4104. The primary output of switch 4104 is now the project's primary output and constitutes a compressed data stream comprising the entire project. This compressed output can, for example, be sent to a file writer so that it can be written to a file or CD.

In the Fig. 40 project example, the Fig. 41 software switch assembly works in the following way. From time t=0-8, the switch assembly allows the compressed stream corresponding to source A to pass through switches 4102 and 4104 to become the primary output of switch 4104. From time t= 8-10, switch 4104 passes the uncompressed, blended output of switch 4100 through compressor component 4104a, which is routed back around and serves as an input to switch 4104 which is, in turn, passed to the primary output of switch 4104. From time t=10-16, the output of switch 4104 is the compressed input received from switch 4102 which corresponds to source B's compressed data stream. The resultant output stream of switch 4104 is the compressed stream of the entire project.

The Tucker Reference

Tucker relates to a personal videoconferencing system that includes a videoconferencing appliance connected to a personal computer through a Universal Serial Bus (USB) or similar connection. The appliance is provided with a video camera and microphone for generating local video and audio streams. The local video and audio streams are compressed by a video and audio encoder residing at the appliance, and the compressed video and audio streams are conveyed to the personal computer over the USB connection. Tucker instructs that the appliance may be further provided with an audio decoder for decompressing a remote audio stream received by the personal computer through a network interface and conveyed to the appliance via the USB connection. A video decoder, located on the personal computer, is configured to decompress the local video stream (received through the USB connection) as well as a remote video stream received through the network interface. The decompressed video streams

are then sent to a monitor for display to a user. The decompressed audio stream may be played either at a loudspeaker coupled to the audio decoder or at the personal computer.

Tucker's Fig. 1 shows a representative front view of a personal videoconferencing system 100. Videoconferencing system 100 generally includes a videoconferencing appliance 102 coupled to a personal computer 104 via a universal serial bus (USB) or comparable connection. PC 104 is provided with a conventional monitor 106 for displaying images, text and other graphical information to a user.

Appliance 102 is provided with a video camera 110 for continuously capturing an image of a user positioned in front of videoconferencing system 100. Appliance 102 is further provided with a microphone and an interface for an external loudspeaker (not shown in FIG. 1) for, respectively, generating audio signals representative of the user's speech and for reproducing the speech of one or more remote conference participants. The remote conference participant's speech may alternatively be reproduced at loudspeakers 112 or a headset (not shown) connected to PC 104 through a sound card, or at speakers integrated within PC 104.

As instructed by Tucker, videoconferencing system 100 is generally operative to generate and encode local audio and video streams for transmission to a remote conference endpoint over a packet switched network, and to decode and present remote audio and video streams received from the remote conference endpoint over the network.

Fig. 2 is a block diagram showing interconnected hardware components of appliance 102. Video camera 110 conventionally includes a sensor and associated

optics for continuously capturing the image of the user and generating signals representative of the image.

Appliance 102 further includes a conventional microphone 204 for sensing the speech of the local user and generating audio signals representative of the speech. Microphone 204 may be integrated within the housing of videoconferencing appliance 102, or may comprise an external microphone or microphone array coupled to videoconferencing appliance 102 by a jack or other suitable interface. Microphone 204 communicates with an audio codec 206, which comprises circuitry or instructions for converting the analog signals produced by microphone 204 to a digitized audio stream. Audio codec 206 is also configured to perform digital-to-analog conversion in connection with an incoming audio data stream so that the speech of the remote user may be reproduced at conventional loudspeaker 208.

Locally generated audio and video streams from audio codec 206 and video camera 110 are output to a processor 210, which is programmed to encode (compress) the audio and video streams for subsequent delivery to the remote conference endpoint(s) over the packet-switched network. Processor 210 is generally configured to read in audio and video data from codec 206 and video camera 110, to compress and perform other processing operations on the audio and video data, and to output compressed audio and video streams to a PCI bus 216. Processor 210 is additionally configured to receive as input through PCI bus 216 an incoming (remote) compressed audio stream representative of the speech of a remote conference participant, to decompress and otherwise process the incoming audio stream and to direct the decompressed audio stream to audio

codec 206/speaker 208 so that the remote speech may be reproduced at appliance 102.

A universal serial bus (USB) interface 220, which includes an external connector attachable to a cable extending between interface 220 and a corresponding interface located at PC 104, is coupled to PCI bus 216 to enable bi-directional communication between appliance 102 and PC 104.

The Office's Arguments

Claim 1 recites an ***editing system*** comprising:

- a switch assembly comprising one or more software-implemented matrix switches, individual matrix switches comprising:
- one or more input pins configured to receive a data stream; and
- one or more output pins configured to output a data stream;
- the one or more input pins being routable to the one or more output pins, the switch assembly being configured to process both compressed and uncompressed data ***streams to provide a compressed output data stream that represents a user-defined editing project.***

In making out the rejection of this claim, the Office argues that its subject matter is anticipated by Tucker. Specifically, the Office argues that Tucker discloses this claim's subject matter in column 2, lines 18-25, and column 5, lines 23-47. These excerpts of Tucker appear below for the Office's convenience.

> In accordance with one aspect of the invention, a personal videoconferencing system includes a videoconferencing appliance connected to a personal computer (PC) via a Universal Serial Bus (USB) or comparable communication interface. Processing tasks for implementing videoconferencing services are distributed between an onboard processor located within the appliance and the central processing unit (CPU).of the

PC. In particular, the onboard processor handles compression of a locally generated audio stream (typically representative of the speech of the local user), compression of a locally generated video stream (typically representative of an image of the local user), and echo cancellation and decompression of at least one remotely generated audio stream (typically representative of the speech of a remote user).

The compressed local audio and video streams, and the decompressed and echo cancelled remote audio stream, are conveyed to the PC through the USB interface. The compressed local audio and video streams are directed to a network interface for transmission over a network to a remote conference endpoint. The PC also receives compressed remote audio and video streams. The PC is configured to handle decompression of the compressed remote and local video streams, display of the local and remote video streams, and (optionally) playing of the audio stream. The PC additionally handles execution of a user interface, packetization of media streams, call establishment and control operations, and low-level network connectivity tasks.

Column 2, lines 18-25.

FIG. 3 is a block diagram showing hardware components of PC 104. A USB interface 302, coupled to corresponding USB interface 220 of appliance 102, sends and receives audio and video streams and related control information to and from appliance 102. PC 104 is further provided with a network interface 304 to enable communication between videoconferencing system 100 and.other network-connected devices, such as another remote videoconferencing endpoint. Network interface 304 will typically comprise an Ethernet card which is connected to a local area network (LAN), cable modem, digital subscriber line (DSL) modem, or other suitable network access device.

CPU 306, which may comprise an Intel.RTM. Pentium.RTM.-class or other suitable processor, is generally operative to execute program instructions and manage hardware resources. In accordance with the distributed processing architecture of videoconferencing system 100, CPU 306 handles decoding of locally and remotely generated video streams, display of the decoded video streams on monitor 106, media stream packetization, call establishment and control, network connectivity operations, data conferencing tasks, and execution of a user interface (whereas processor 210 of appliance 102 handles encoding of locally

generated audio and video streams and decoding of the remotely generated audio stream(s)).

Column 5, lines 23-47.

As noted above, Tucker pertains to a personal videoconferencing systems, see, e.g. Tucker's title "Personal Videoconferencing System Having Distributed Processing Architecture." Tucker does not disclose or suggest an ***editing system*** for representing a ***user-defined editing project***. As such, it is virtually impossible for Tucker to disclose or suggest a switch assembly that comprises part of an ***editing system*** for representing a ***user-defined editing project***. For at least this reason, this claim is neither anticipated by nor rendered obvious in view of Tucker. Accordingly, this claim is allowable.

Claims 2-7 depend from claim 1 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 1, are neither disclosed nor suggested in the references of record, either singly or in combination with one another.

Claim 8 recites an ***editing system*** comprising:

- a media processing object configured to:
  - receive multiple data streams comprising compressed and uncompressed data streams; and
  - process the one or more data streams to provide a compressed output data stream ***that represents a media project***.

In making out the rejection of this claim, the Office argues that its subject matter is anticipated by Tucker. Specifically, the Office argues that Tucker

discloses this claim's subject matter in column 2, lines 18-45, and column 5, lines 23-47.

As noted above, Tucker pertains to a personal videoconferencing systems, see, e.g. Tucker's title "Personal Videoconferencing System Having Distributed Processing Architecture." Tucker does not disclose or suggest an ***editing system*** that represents a ***media project***. As such, it is virtually impossible for Tucker to disclose or suggest a media processing object that comprises part of an ***editing system*** that represents a ***media project***. For at least this reason, this claim is neither anticipated by nor rendered obvious in view of Tucker. Accordingly, this claim is allowable.

Claims 9-12 depend from claim 8 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 8, are neither disclosed nor suggested in the references of record, either singly or in combination with one another.

Claim 13 recites a ***multi-media editing system*** comprising:

- a switch assembly comprising one or more software-implemented matrix switches, individual matrix switches comprising:
- one or more input pins configured to receive a data stream; and
- one or more output pins configured to output a data stream;
- the one or more input pins being routable to the one or more output pins, the switch assembly being configured to process both compressed and uncompressed data streams to provide a compressed output data stream ***that represents a user-defined multi-media editing project;*** and
- one or more data structures associated with the switch assembly and configured for use in programming the switch assembly to provide a routing scheme for routing input pins to output pins for a given multi-media editing project time line.

In making out the rejection of this claim, the Office argues that its subject matter is anticipated by Tucker. Specifically, the Office argues that Tucker discloses this claim's subject matter in column 2, lines 18-45, and column 5, lines 23-47.

As noted above, Tucker pertains to a personal videoconferencing systems, see, e.g. Tucker's title "Personal Videoconferencing System Having Distributed Processing Architecture." Tucker does not disclose or suggest a ***multi-media editing system*** for representing a ***user-defined multi-media editing project***. As such, it is virtually impossible for Tucker to disclose or suggest a switch assembly and data structure(s) that comprise part of a ***multi-media editing system*** for representing a ***user-defined multi-media editing project***. For at least this reason, this claim is neither anticipated by nor rendered obvious in view of Tucker. Accordingly, this claim is allowable.

Claims 14-20 depend from claim 13 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 13, are neither disclosed nor suggested in the references of record, either singly or in combination with one another.

Claim 21 recites a ***multi-media editing system*** comprising:

- a switch assembly comprising one or more non-hardware matrix switches, individual matrix switches comprising:
- one or more input pins configured to receive a data stream; and
- one or more output pins configured to output a data stream;
- the one or more input pins being routable to the one or more output pins, the switch assembly being configured to process both compressed and uncompressed data streams to provide a compressed

output data stream that ***represents a user-defined multi-media editing project.***

In making out the rejection of this claim, the Office argues that its subject matter is anticipated by Tucker.

As noted above, Tucker pertains to a personal videoconferencing systems, see, e.g. Tucker's title "Personal Videoconferencing System Having Distributed Processing Architecture." Tucker does not disclose or suggest a ***multi-media editing system*** for representing a ***user-defined multi-media editing project.*** As such, it is virtually impossible for Tucker to disclose or suggest a switch assembly that comprises part of a ***multi-media editing system*** for representing a ***user-defined multi-media editing project.*** For at least this reason, this claim is neither anticipated by nor rendered obvious in view of Tucker. Accordingly, this claim is allowable.

Claims 22-27 depend from claim 21 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 21, are neither disclosed nor suggested in the references of record, either singly or in combination with one another.

Claim 28 recites an media processing system comprising:

- switch means for receiving compressed and uncompressed data streams ***associated with sources that are to be incorporated into a project*** and processing the compressed and uncompressed data streams to provide ***a single compressed output stream that represents the project***; and
- programming means associated with the switch means and configured to program the switch means to provide the single compressed output stream.

In making out the rejection of this claim, the Office argues that its subject matter is anticipated by Tucker. Specifically, the Office argues that Tucker discloses this claim's subject matter in column 2, lines 18-45, and column 5, lines 23-47.

As noted above, Tucker pertains to a personal videoconferencing systems, see, e.g. Tucker's title "Personal Videoconferencing System Having Distributed Processing Architecture." Tucker does not disclose or suggest a ***media processing system*** for representing a ***project***, as that term is understood in the context of Applicant's disclosure. As such, it is virtually impossible for Tucker to disclose or suggest a switch means and programming means that comprise part of a ***media processing system*** for representing a ***project***. For at least this reason, this claim is neither anticipated by nor rendered obvious in view of Tucker. Accordingly, this claim is allowable.

Claims 29-32 depend from claim 28 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 28, are neither disclosed nor suggested in the references of record, either singly or in combination with one another.

Claim 33 recites a ***multi-media editing system*** comprising:

- a first software-implemented matrix switch comprising one or more input pins and one or more output pins, the one or more input pins being routable to the one or more output pins, the first matrix switch being configured to process one or more uncompressed data streams and output an uncompressed data stream;
- a second software-implemented matrix switch comprising one or more input pins and one or more output pins, the one or more input

pins being routable to the one or more output pins, the second matrix switch being configured to process one or more compressed data streams and output a compressed data stream; and

- a third software-implemented matrix switch comprising multiple input pins and multiple output pins, the input pins being routable to one or more output pins, the third matrix switch being configured to receive an uncompressed data stream from the first switch and a compressed data stream from the second switch and process the received data streams to provide a single compressed output data stream that ***represents a user-defined multi-media editing project.***

In making out the rejection of this claim, the Office argues that its subject matter is anticipated by Tucker. Specifically, the Office argues that Tucker discloses this claim's subject matter in column 2, lines 18-45, and column 5, lines 23-47.

As noted above, Tucker pertains to a personal videoconferencing systems, see, e.g. Tucker's title "Personal Videoconferencing System Having Distributed Processing Architecture." Tucker does not disclose or suggest a ***multi-media editing system*** for representing a ***user-defined multi-media editing project***. As such, it is virtually impossible for Tucker to disclose or suggest a first software-implemented switch, a second software-implemented switch and a third software-implemented switch that comprises part of a ***multi-media editing system*** for representing a ***user-defined multi-media editing project***. For at least this reason, this claim is neither anticipated by nor rendered obvious in view of Tucker. Accordingly, this claim is allowable.

Claims 34-37 depend from claim 33 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 33, are neither disclosed

nor suggested in the references of record, either singly or in combination with one another.

Claim 38 recites a ***multi-media editing system*** comprising:

- first software switch means for processing one or more uncompressed data streams to provide an uncompressed data stream, the switch means comprising at least one feedback loop that modifies a data stream that is output by the switch means and provides the modified data stream as an input to the switch means;
- second software switch means for processing one or more compressed data streams to provide a compressed data stream; and
- a third software switch means for receiving an uncompressed data stream from the first software switch means and a compressed data stream from the second software switch and processing the received data streams to provide a single compressed output data stream that ***represents a user-defined multi-media editing project.***

In making out the rejection of this claim, the Office argues that its subject matter is anticipated by Tucker. Specifically, the Office argues that Tucker discloses this claim's subject matter in column 2, lines 18-45, and column 5, lines 23-47.

As noted above, Tucker pertains to a personal videoconferencing systems, see, e.g. Tucker's title "Personal Videoconferencing System Having Distributed Processing Architecture." Tucker does not disclose or suggest a ***multi-media editing system*** for representing a ***user-defined multi-media editing project.*** As such, it is virtually impossible for Tucker to disclose or suggest first software switch means, a second software switch means and third software switch means that comprise part of a ***multi-media editing system*** for representing a ***user-defined multi-media editing project.*** For at least this reason, this claim is neither

anticipated by nor rendered obvious in view of Tucker. Accordingly, this claim is allowable.

Claim 39 depends from claim 38 and is allowable as depending from an allowable base claim. This claim is also allowable for its own recited features which, in combination with those recited in claim 38, are neither disclosed nor suggested in the references of record, either singly or in combination with one another.

Claim 40 recites a ***multi-media editing system*** comprising:

- a first software-implemented matrix switch comprising one or more input pins and one or more output pins, the one or more input pins being routable to the one or more output pins, the first matrix switch being configured to process one or more uncompressed data streams and output an uncompressed data stream;
- a second software-implemented matrix switch comprising one or more input pins and one or more output pins, the one or more input pins being routable to the one or more output pins, the second matrix switch being configured to process one or more compressed data streams and output a compressed data stream;
- a third software-implemented matrix switch comprising multiple input pins and multiple output pins, the input pins being routable to one or more output pins, the third matrix switch being configured to receive an uncompressed data stream from the first switch and a compressed data stream from the second switch and process the received data streams to provide a single compressed output data stream that ***represents a user-defined multi-media editing project***; and
- one or more data structures associated with at least some of the matrix switches and configured for use in programming the associated switches to provide a routing scheme for routing input pins to output pins.

In making out the rejection of this claim, the Office argues that its subject matter is anticipated by Tucker. Specifically, the Office argues that Tucker

discloses this claim's subject matter in column 2, lines 18-45, and column 5, lines 23-47.

As noted above, Tucker pertains to a personal videoconferencing systems, see, e.g. Tucker's title "Personal Videoconferencing System Having Distributed Processing Architecture." Tucker does not disclose or suggest a ***multi-media editing system*** for representing a ***user-defined multi-media editing project***. As such, it is virtually impossible for Tucker to disclose or suggest a first software-implemented matrix switch, a second software-implemented matrix switch, a third software-implemented matrix switch and data structure(s) that comprise part of a ***multi-media editing system*** for representing a ***user-defined multi-media editing project***. For at least this reason, this claim is neither anticipated by nor rendered obvious in view of Tucker. Accordingly, this claim is allowable.

Claims 41-43 depend from claim 40 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 40, are neither disclosed nor suggested in the references of record, either singly or in combination with one another.

Claim 44 recites a ***multi-media editing method*** comprising:

- ***providing a switch assembly*** comprising one or more software-implemented matrix switches, individual matrix switches comprising one or more input pins and one or more output pins, the one or more input pins being routable to the one or more output pins, the switch assembly being configured to process both compressed and uncompressed data streams to provide a compressed output data stream ***that represents a user-defined multi-media editing project***; and

- programming the switch assembly using one or more data structures, said programming providing a routing scheme for routing input pins to output pins for a given time period.

In making out the rejection of this claim, the Office argues that its subject matter is anticipated by Tucker. Specifically, the Office argues that Tucker discloses this claim's subject matter in column 2, lines 18-45, and column 5, lines 23-47.

As noted above, Tucker pertains to personal videoconferencing systems and methods, see, e.g. Tucker's title "Personal Videoconferencing System Having Distributed Processing Architecture." Tucker does not disclose or suggest a ***multi-media editing method*** for representing a ***user-defined multi-media editing project***. As such, it is virtually impossible for Tucker to disclose or suggest providing a switch assembly and programming the switch assembly using data structure(s) in accordance with a ***multi-media editing method*** for representing a ***user-defined multi-media editing project***. For at least this reason, this claim is neither anticipated by nor rendered obvious in view of Tucker. Accordingly, this claim is allowable.

Claims 45-56 depend from claim 44 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 44, are neither disclosed nor suggested in the references of record, either singly or in combination with one another.

Claim 57 recites one or more computer-readable media having computer-readable instructions thereon which, when executed by a computer, cause the computer to:

- provide a switch assembly comprising multiple software-implemented matrix switches, individual matrix switches comprising one or more input pins and one or more output pins, the one or more input pins being routable to the one or more output pins, the switch assembly comprising:
- a first switch configured to process uncompressed data streams to provide an uncompressed output data stream;
- a second switch configured to process compressed data streams to provide a compressed output data stream; and
- a third switch configured to receive both the uncompressed and compressed output data streams and process the data streams to provide a compressed output data stream that ***represents a user-defined multi-media editing project***; and
- program the switch assembly by defining a first grid structure containing data that defines an association between the first switch's input pins, at least one output pin and a time line defined by the editing project, and defining a second grid structure containing data that defines an association between the second switch's input pins, at least one output pin and the time line defined by the editing project.

In making out the rejection of this claim, the Office argues that its subject matter is anticipated by Tucker. Specifically, the Office argues that Tucker discloses this claim's subject matter in column 2, lines 18-45, and column 5, lines 23-47.

As noted above, Tucker pertains to personal videoconferencing systems and methods, see, e.g. Tucker's title "Personal Videoconferencing System Having Distributed Processing Architecture." Tucker does not disclose or suggest a system that comprises instructions that provide a switch assembly for representing a ***user-defined multi-media editing project***. As such, it is virtually impossible for Tucker to disclose or suggest such a system that comprises first, second and third switches as recited in this claim. For at least this reason, this claim is neither

anticipated by nor rendered obvious in view of Tucker. Accordingly, this claim is allowable.

Claims 58-62 depend from claim 57 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 57, are neither disclosed nor suggested in the references of record, either singly or in combination with one another.

Claim 63 recites a ***multi-media editing method*** comprising:

- providing a first software-implemented matrix switch comprising one or more input pins and one or more output pins, the one or more input pins being routable to the one or more output pins, the first matrix switch being configured to process one or more uncompressed data streams and output an uncompressed data stream;
- providing a second software-implemented matrix switch comprising one or more input pins and one or more output pins, the one or more input pins being routable to the one or more output pins, the second matrix switch being configured to process one or more compressed data streams and output a compressed data stream;
- providing a third software-implemented matrix switch comprising multiple input pins and multiple output pins, the input pins being routable to one or more output pins;
- receiving, with the third matrix switch, an uncompressed data stream from the first switch and a compressed data stream from the second switch; and
- processing the received data streams with the third switch to provide a single compressed output data stream that ***represents a user-defined multi-media editing project.***

In making out the rejection of this claim, the Office argues that its subject matter is anticipated by Tucker. Specifically, the Office argues that Tucker

discloses this claim's subject matter in column 2, lines 18-45, and column 5, lines 23-47.

As noted above, Tucker pertains to personal videoconferencing systems and methods, see, e.g. Tucker's title "Personal Videoconferencing System Having Distributed Processing Architecture." Tucker does not disclose or suggest a ***multi-media editing method*** for representing a ***user-defined multi-media editing project***. As such, it is virtually impossible for Tucker to disclose or suggest providing a first, second and third software-implemented matrix switches as recited in this claim. For at least this reason, this claim is neither anticipated by nor rendered obvious in view of Tucker. Accordingly, this claim is allowable.

Claims 64-66 depend from claim 63 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 63, are neither disclosed nor suggested in the references of record, either singly or in combination with one another.

Claim 67 recites one or more computer-readable media having computer-readable instructions thereon which, when executed by a computer, cause the computer to:

- process at least one compressed data stream to provide an output compressed data stream ***that comprises a portion of a user-defined multi-media editing project*** that is associated with a data stream source;
- process one or more uncompressed data streams to manipulate the one or more uncompressed data streams to provide an output uncompressed data stream ***that comprises a different portion of a user-defined multi-media editing project*** that is associated with one or more data stream sources;
- compress the output uncompressed data stream; and

- associate the output compressed data stream and the compressed output uncompressed data stream together to provide a compressed stream ***that represents a user-defined multi-media editing project.***

In making out the rejection of this claim, the Office argues that its subject matter is anticipated by Tucker. Specifically, the Office argues that Tucker discloses this claim's subject matter in column 2, lines 18-45, and column 5, lines 23-47.

As noted above, Tucker pertains to personal videoconferencing systems and methods, see, e.g. Tucker's title "Personal Videoconferencing System Having Distributed Processing Architecture." Tucker does not disclose or suggest a ***multi-media editing system*** for representing a ***user-defined multi-media editing project.*** For at least this reason, this claim is neither anticipated by nor rendered obvious in view of Tucker. Accordingly, this claim is allowable.

Claims 68-69 depend from claim 67 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 67, are neither disclosed nor suggested in the references of record, either singly or in combination with one another.

Claim 70 recites one or more computer-readable media having computer-readable instructions thereon which, when executed by a computer, cause the computer to:

- receive and process one or more uncompressed data streams with a first software-implemented matrix switch comprising one or more input pins and one or more output pins, the one or more input pins being routable to the one or more output pins to output an uncompressed data stream;

- receive and process one or more compressed data streams with a second software-implemented matrix switch comprising one or more input pins and one or more output pins, the one or more input pins being routable to the one or more output pins to output a compressed data stream;
- receive and process the uncompressed data stream that is output by the first switch and the compressed data stream that is output by the second switch with a third software-implemented matrix switch comprising multiple input pins individual ones of which receive data streams, and one or more output pins individual ones of which provide data streams, the one or more input pins being routable to the one or more output pins to output, at one output pin, a compressed data stream that ***represents a user-defined multi-media editing project.***

In making out the rejection of this claim, the Office argues that its subject matter is anticipated by Tucker. Specifically, the Office argues that Tucker discloses this claim's subject matter in column 2, lines 18-45, and column 5, lines 23-47.

As noted above, Tucker pertains to personal videoconferencing systems and methods, see, e.g. Tucker's title "Personal Videoconferencing System Having Distributed Processing Architecture." Tucker does not disclose or suggest a ***multi-media editing system*** for representing a ***user-defined multi-media editing project.*** For at least this reason, this claim is neither anticipated by nor rendered obvious in view of Tucker. Accordingly, this claim is allowable.

Claims 71-75 depend from claim 70 and are allowable as depending from an allowable base claim. These claims are also allowable for their own recited features which, in combination with those recited in claim 70, are neither disclosed nor suggested in the references of record, either singly or in combination with one another.

Conclusion

All of the claims are in condition for allowance. Accordingly, Applicant requests a Notice of Allowability be issued forthwith. If the Office's next anticipated action is to be anything other than issuance of a Notice of Allowability, Applicant respectfully requests a telephone call for the purpose of scheduling an interview.

Respectfully Submitted,

Dated: 7/1/04

By: _____

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